

Supply Chain Design at a Leading Spectacle Lens Company Reduces Pickup Time by 25% and Inventory Holding by 20%



SITUATION

The customer was witnessing exponential growth, but the supply chain and the planning processes were not able to keep up with the change and cope with the new demands. The company was in a competitive market and had to maintain expected service levels of >97% and service time of <4 hours.

IMPACT

The customer realized that the cost increase in the organization was higher than the growth in sales. This reduced the profitability of the business. They also had a large number of SKUs (>50,000) that resulted in high inventory carrying cost and risk of obsolescence.

RESOLUTION

An optimization model was drawn up to decide the best supply chain structure. This was followed by a detailed study and improvement in the supply chain planning processes.

The Customer

The company is a global leader in spectacle lens. Based out of Europe, the company produces ophthalmic lenses along with ophthalmic optical equipment. The customer operates in over 100 countries over five continents with a prime focus on research and development. It is the world's largest manufacturer of ophthalmic lenses.



The Need

The India business of the customer was on an exponential growth path and needed a solution for its existing supply chain. They wanted to optimize the system it could support the challenge of their aggressive customer servicing expansion plan from 200 to 500 cities. In the competitive market, the company wanted to be able to offer expected service levels of more than 97% and service time of less than 4 hours. The client's large number of SKUs (stock keeping units-more than 50,000) and high inventory carrying cost gave them a risk of obsolescence.

Against this background the customer laid out specific objectives for the project implementation:

- Identify the optimal number & location of the stocking points in a time phased manner with a basis 2020 business outlook
- Design future state supply chain planning processes and policies
- Implement process changes and improve warehouse operations to be able to meet the increasing needs

The Solution

The customer entrusted ITC Infotech with the project that was implemented with a strategic network design. The strategic network design featured specific steps such as:

- Demand Forecasting – A 5-year forecast was arrived at with a combination of historical sales data, macro economic factors, city level demographics and government policies. The sales, marketing and strategy teams were part of this collective task.
- Greenfield analysis – A greenfield analysis was done with different service constraints to identify potential locations for stocking. A list of 277 locations was drawn up and this was further evaluated through network optimization
- Network Optimization – The model was optimized with a multi objective sequential optimization with cost and distance to customer being the key priorities. The key considerations were various costs (Capex, fixed and variable) for existing as well as new locations, service constraints and distance to customer. This provided a staggered expansion plan over the five years, after evaluating multiple scenarios by changing the service constraints. The network was then established with 86 locations for stocking.
- Sensitivity analysis – A sensitivity analysis was done to test the network for variations in assumption factors and their impact on the network structure. It involved running multiple scenarios around demand and costs following which 75 locations were identified to provide a robust supply chain network.

A staggered yearly plan was prepared for the expansion from existing 50 to proposed 75 locations. ITC Infotech worked in the areas of setting up a consensus based demand planning process, a replenishment based supply planning process and scientific inventory optimization methodology. MS Excel based automation worksheets were developed for continuous use by business users. They also suggested improvements after studying the warehouse operations, besides extending support for various planning process changes to ensure the implementation of suggestions and fine tuning the solution.

Business Benefits

- Reduced the weighted average distance for servicing customers from 88 km to 42 km for finished goods after a phased expansion plan into new territories, identified on the basis of priorities
- Reduction in inventory holding by nearly 20% following the segmented inventory norms based on product and customer characteristics
- Reduced the pickup time by 25% as a result of the color coded replenishment process for stocking SKUs in the racks, and the use of slotted boxes design for stocking multiple SKUs

ITC Infotech's Business Consulting Practice

The Business Consulting Group (BCG) at ITC Infotech is a converging point for business & IT solutions. We aim to transform business performance, bringing a strategic perspective on process improvement and IT enablement. Our team blends domain experts and consultants, bringing unique capabilities to discover and resolve business concerns of the day.

Our expertise spans Consumer Goods, Retail, Process Industry, Logistics & Transportation, across key business functions such as product development, production, supply chain management, sales and marketing management, field force management, and customer relationship management.

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